**Homework 33H** Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conditional Statements** Period:\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
**Failure to write in complete sentences and show all work will result in LaSalle!**

**Rewrite the conditional statements in if-then form.**

|  |  |
| --- | --- |
| 1) The measure of a straight angle is 180°.  **HYPOTHESIS:   CONCLUSION:**  **IF-THEN FORM:** | 2) Congruent segments are segments that are equal in measure.  **HYPOTHESIS:**  **CONCLUSION:**  **IF-THEN FORM:** |
| 3) Today is Monday if yesterday was Sunday.  **HYPOTHESIS:**  **CONCLUSION:**  **IF-THEN FORM:** | 4) A number is divisible by 4 if it is divisible by 8.  **HYPOTHESIS:**  **CONCLUSION:**  **IF-THEN FORM:** |

**Write the converse, inverse, and contrapositive for each conditional statement that is given. Then decided whether each statement is *true* or *false*.**

**True/False**

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| **6) Conditional Statement** | If the weather is warm, then we will go swimming. |  |
| **Converse** |  |  |
| **Inverse** |  |  |
| **Contrapositive** |  |  |

**True/False**

|  |  |  |
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| **7) Conditional Statement** | If the groundhog sees its shadow, then there will be six more weeks of winter. |  |
| **Converse** |  |  |
| **Inverse** |  |  |
| **Contrapositive** |  |  |

**True/False**

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| **8) Conditional Statement** | If you are in Honors Geometry, then you are good at math. |  |
| **Converse** |  |  |
| **Inverse** |  |  |
| **Contrapositive** |  |  |

**True/False**

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| **9) Conditional Statement** | If x = -6 , then |x| = 6 |  |
| **Converse** |  |  |
| **Inverse** |  |  |
| **Contrapositive** |  |  |

**True/False**

|  |  |  |
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| **10) Conditional Statement** | If points D, E, and F are collinear, then DE + EF = DF |  |
| **Converse** |  |  |
| **Inverse** |  |  |
| **Contrapositive** |  |  |

**Rewrite the following definition as a biconditional statement.**

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| 11) I am breathing when I am alive. | 12) Coplanar points are points that lie in the same plane. |
| 13) Two angles are complementary angles if the sum of their measures is 90 degrees. | 14) Adjacent angles are two angles that share a common vertex and side, but have no common interior points. |

**Write 2-3 conditional statements in if-then form and determine whether your statements are true or false. Then write a converse, inverse, and contrapositive statements for each of your examples.**

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| 15)  **Cats**  **Pets**  **Dogs** | a. IF-THEN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  b. CONVERSE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  c. INVERSE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  d. CONTRAPOSITIVE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | a. T or F  b. T or F  c. T or F  d. T or F |

**Mixed Review:**

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| 16. Quadrilateral INTR is a rectangle with diagonals meeting at point M. If *mNMT* = 68 what is *mRMT*? | 17. In the figure below, Q, R, and S are collinear. If the measure of PQR is 31 and the measure of PRS is 58, what is the measure of QPR? |
| 18. Of the following numbers, which is the smallest value?  A) 6,120  B) 612 x  C) 6.12 x  D) 0.00612 x  E) 6.12 x | 19. Simplify: (4 -2i) (3+ 5i) |
| 21. Which real number is equivalent to ?  A.-1  B. i  C. 1  D. -i  E. There is no equivalent real number | 22. When z = 4, what is the value of: |